IN THE SPECIFICATION:

Please substitute the following paragraphs for those appearing in the originally filed specification.

Page 2, line 1.

A1

When the ink cartridge includes a porous member within its ink chamber for absorbing ink, the ink chamber receives a negative pressure by the porous member. Therefore, the ink cartridge needs to be sealed so as not to suck air or bubbles in the ink chamber, which would be undesirable.

Page 2, line 20.

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When the ink cartridge 112 is removed from the printing apparatus with ink left therein, the sealing of the ink supply needle 118 with the packing member 120 is released. The result is that ink leaks from the ink supply port 114 or that air or a bubble enters the ink supply port 114. This means that a user of the ink cartridge cannot remove the ink cartridge until ink in the ink cartridge is completely used up. The user cannot repeatedly exchange a plurality of ink cartridges with his choice while ink still remains in the ink cartridge.

Page 4, line 7.

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In the conventional ink cartridge shown and Fig. 28, the packing member 134 serves as a valve seat sealing the ink supply port 132 with the connecting means, and the ball 136 serves as a valve body closing the ink supply port 132 in cooperation with the packing member 134. However, the relative position between the ball 136 and the spring 138 is unstable. This may cause an undesirable insufficient sealing by the ball 136 with the packing member 134. Furthermore, the connecting means needs to have a large contact area to sufficiently urge the ball 136 against the elastic force of the spring. Therefore, the connecting means is not easily inserted in the packing member 134. Furthermore, because the ball 136 is always urged toward the packing member 134 by the spring, the through hole of the packing member 134 may be

A3 Cont'd. expanded. This is disadvantageous because it may cause an insufficient connection between the ball 136 and the packing member 134.

Page 5, line 10.

A4 The above and other objects can be achieved by combinations of the features recited in independent claims of the present application. Dependent claims define further advantages and exemplary combinations of the present invention.

Page 18, line 16.

Fig. 22(c) shows the valve device shown in Fig. 22(A);

Page 18, line 17.

Fig. 22(D) shows the valve device shown in Fig. 22(A) with the ink supply needle of the printing apparatus;

Page 19, line 14.

A5 Preferred embodiments of the present invention will now be described in detail with reference to the accompanying drawings. The embodiments described as follows are not intended to limit the scope of the present invention, but merely exemplify the invention. Not all of the features and the combinations thereof described in the embodiment are necessarily essential to the invention.

Page 19, beginning at line 21 and extending to page 20.

A6 Fig. 1 shows a first embodiment of an ink cartridge according to the present invention. As shown and Fig. 1, an ink cartridge 2 has an ink chamber 4 for containing ink, and an ink supply port 6 designed to establish an ink communication with the ink chamber 4. The ink cartridge 2 is also provided with a packing member 8 disposed within the ink supply port 6, and a valve member 10 located between the ink chamber 4 and the packing member 8. The valve member 10 is always urged toward the packing member 8 by an elastic force of a compression spring 12 (see Fig. 2). The packing member 8 is made of an elastic material such as a rubber or a

A6 mid.

plastic. The ink chamber 4 accommodates therein a porous member 5 which absorbs ink. Because of the fact that ink is absorbed in the porous member 5, ink is retained in the ink chamber in a stable manner without splashing, even with the ink cartridge being mounted on a carriage of a printing apparatus reciprocating at a high speed. As the porous member 5 is accommodated in the ink chamber 4, the ink chamber 4 is always at a negative pressure.

Page 22, line 13.

A7

The packing member 8 is press-fitted in the ink supply port 6 and defines an ink introducing chamber 36 within the ink supply port 6. The ink introducing chamber 36 is an area defined between the packing member 8 and the ink chamber 4. The valve member 10 is received in the ink introducing chamber 36. The ink introducing chamber 36 has a cylindrical guide unit 38 having a through bore 38a. The guide unit 38 receives a part of the valve member 10 in order to guide the valve member 10. The guide unit 38 contacts with the part of the valve member 10 necessary to have the valve member 10 moved vertically with respect to the packing member 8. The valve member 10 is always urged by a compression spring 12 toward the packing member 8, to contact with the packing member for selectively closing the ink channel of the packing member 8.

Page 22, line 28.

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Fig. 3 shows an embodiment of the valve member 10. The valve member 10 has a valve body 40 contacting with the packing member 8, and a guide body 42 for guiding the valve body 40. The guide body 42 helps the valve body 40 to move vertically with respect to the packing member, when the valve member 10 is received in the ink introducing chamber 36. The valve body 40 has a sealing portion 44 for sealing the ink channel of the packing member 8 when the valve body 40 contacts with the packing member 8, a spring support structure 46 for supporting the compression spring 12, and an ink channel 48 suitable for the passage of ink when the valve body comes out of contact with the packing member by the ink supply needle of the printing apparatus. Here, the sealing portion 44 is substantially flat. A part of the ink channel 48 is formed by cutting off the sealing portion 44. The guide body 42 has an axial portion 50

A8 Amd. connecting to the valve body 40, and a guide block 52 formed at an end of the axial portion 50 opposite to the valve body 40.

Page 23, line 17.

A9 Referring back to Fig. 2, the guide block 52 is slidably received in the guide unit 38. The guide block 52 has a diameter larger than a diameter of the through bore 38a of the guide unit 38. The guide block 52 of the valve member 10 cooperates with the guide unit 38, to have the valve body 40 move vertically with respect to the packing member 8.

Page 24, line 14.

A10 The internal opening 16 formed at the side of the ink supply port 6 opening to the ink chamber 4 has a dimension larger than the dimension of the ink introducing chamber 36 in which the valve member 10 is accommodated. The result is, ink can be smoothly introduced to the ink introducing chamber 36, and can likewise smoothly flow to the ink supply port 6. A filter 54 is provided between the internal opening 16 of the ink supply port 6 and the ink chamber 4 of the ink cartridge. The filter 54 collects dust or foreign particles existing in the ink chamber 4. Furthermore, as the filter 54 has a dimension the same as that of the internal opening 16, ink passes smoothly through the filter 54.

Page 25, line 15.

A11 As shown in Fig. 4(A), the external opening 14 of the ink supply port 6 is adjusted to fit the ink supply needle 104 to have the ink cartridge 2 depressed in the ink cartridge holder 106 of the printing apparatus. The tapered ink supply needle 104 then penetrates the sealing film 56, to be inserted into the fitting portion 28 while being guided by the first and second tapered portions 24 and 26 of the packing member 8. When the ink cartridge 2 is further pushed into the cartridge holder 106 of the printing apparatus, the tapered ink supply needle 104 is smoothly inserted into the hole 32 of the packing member 8. This causes the hole 32 to expand, and the fitting portion 28 of the packing member 8 seals the ink supply needle 104 (see figure 4(B)). The ink supply needle 104 urges the flat sealing portion 44 of the valve member 10 upward. At the same time,

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the valve member 10 moves toward the ink chamber 4 against the elastic force of the compression spring 12.

Page 30, line 6.

A12

In this embodiment, the valve member 10 is incorporated in the ink supply port 6 by entering the compression spring 12 from the internal opening 16 to be placed around the ink introducing chamber 36. The edge of the guide body 42 having the groove 62 is pushed into the through bore 38a of the guide unit 38. The guide block 52 has a groove 62 which allows the guide block 52 to be buckled as it passes through the through bore 38a, and then spreads to be retained in the guide unit 38. In this case, the valve member 10 can be formed as one unit, therefore, the number of parts and working process are reduced.

Page 31, line 20.

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As for the ink cartridge 2 according to the present invention, the ink of the ink supply port 6 is sealed by the connection between the packing member 8 and the valve member 10. Thus, it is not necessary to close the external opening 14 with a sealing film or any equivalent member thereof. Therefore, as shown in Fig.'s 13(A) and 13(B), the sealing film 56 provided at the external opening 14 may be formed with a hole 56a which enables the ink supply needle 104 to pass through. The hole may be formed by cutting the film in a cross shape as shown in Fig. 14. By making the hole, the ink supply needle smoothly passes through the film.

Page 33, line 17.

A14

The valve member 10 has a valve body 40 and a guide body 42. The valve body 40 has a sealing portion 44 and a spring support structure 46. The guide body 42 has an external portion 50 and a guide block 52. The sealing portion 44 of the valve body 40 has a surface facing the packing member 8 formed with a protruding portion 45b to contact with the tip end of the ink supply needle 104. The protruding portion 45b has a size compatible with the hole 18a of the protruding portion 8a of the packing member 8. The valve member 10 is received in the guide

A14 cont'd.

unit 38 of the ink introducing chamber 36, to be moved vertically with respect to the packing member 8.

Page 38, line 18

A15

The elastic member may be an extension spring 64 as shown in Fig. 20. The extension spring 64 is fixed to the ink cartridge 2 at an end by the packing member 8 to have the other end of the extension spring 64 contact with the valve member 10. The valve member 10 is forced toward the packing member 8. In this case, the valve member does not need to have a spring support structure 46, and the ink cartridge 2 does not need to have a guide unit 38 in the ink introducing chamber 36. The result is, that the structure of the ink cartridge 2 can be simplified, thus, the manufacturing process can be reduced.